



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,724	12/30/2003	Amin M. Godil	D/A3513 XERZ 2 00676	9056

27885 7590 08/25/2006

FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP  
1100 SUPERIOR AVENUE, SEVENTH FLOOR  
CLEVELAND, OH 44114

EXAMINER

MARTIN, LAURA E

ART UNIT	PAPER NUMBER
----------	--------------

2853

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/749,724	<b>Applicant(s)</b> GODIL ET AL.	
	<b>Examiner</b> Laura E. Martin	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (US 5920332) in view of Jones et al (US 20020180852).

As per claims 1 and 6, Brooks teaches a method of detecting applying a predetermined amount of power to the heater for melting the solid ink stick, wherein the predetermined amount of power will generate a melting temperature of the heater when the ink stick is engaging in the heater (column 3, lines 37-56) for the communication of the liquid ink to a reservoir associated with the print head (column 3, lines 37-64), monitoring the temperature of the heater during the applying (column 4, lines 5-8), and when the heater is determined to have a temperature selectively higher than the melting temperature, interrupting the applying of power (column 3, line 65-column 4, line 8).

As per claims 3 and 5, Brooks teaches disposing a thermistor at the heater for generating a signal representative of the heater temperature (column 4, lines 5-8).

As per claim 4, Brooks teaches a power supply for supplying energy to the heater, a control circuit for adjusting the supplied energy, and a sensor for sensing a parameter representative of the heater temperature wherein when the sensor senses the heater temperature selectively higher, the control circuit interrupts the supply of

energy to the heater (column 3, line 37-column 4, line 8) and direct the liquid phase ink to a downstream reservoir (column 3, lines 37-64).

As per claims 1 and 5, Brooks does not teach non-engagement between the heater and the ink stick.

As per claim 4, Brooks does not teach a tray for holding the solid ink stick and having an open end for egress of liquid phase ink during heating; a heater disposed at the open end to contact the ink stick and wherein the tray is disposed to urge the ink stick into contact with the heater.

As per claims 1 and 5, Jones et al. teaches non-engagement between the heater and the ink stick [0034].

As per claim 4, Jones et al. teaches a tray for holding the solid ink stick (figure 1, element 16) and having an open end for egress of liquid phase ink during heating (figure 1, elements 25 A-D); a heater disposed at the open end to contact the ink stick and wherein the tray is disposed to urge the ink stick into contact with the heater [0034].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the phasing printing system of Brooks with the disclosure of Jones et al. in order to create a higher quality printing system.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks (US 5920332) and Jones et al (US 20020180852), and further in view of Kanemoto et al. (US 5992991).

Brooks and Jones et al. teach a phasing printing system; however, neither teach generating the melting temperature to be about 110°C and the temperature higher than the melting temperature to be about 150°C.

Kanemoto et al. teaches generating the corresponding temperature to be about 110°C and the temperature higher than the corresponding temperature to be about 150°C (column 5, lines 38-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the phasing printing system of Brooks as modified with the disclosure of Kanemoto et al. in order to create a durable printing system.

### ***Response to Arguments***

Applicant's arguments filed 7/10/06 have been fully considered but they are not persuasive.

Applicant argues that the Brooks is cited, combining several heaters and equating them with the single heater and temperature monitoring system of the subject application. Examiner argues that while there are two separate heaters in the Brooks patent, each heater (shown in figure 1) works to melt the liquid. Heating element 50 heats the solid hot melt ink to a liquid and to maintain the ink in the supply reservoir at a temperature above a melting point. This heating element is connected to temperature control unit 22. Heating element 66 is connected to temperature control unit 22; to avoid overheating, the temperature control unit interrupts power supply when the temperature of the ink reaches a predetermined temperature. This heater is used to

keep the ink in a melted form. Both heaters 50 and 66 are used to maintain a liquefied ink; both of the heaters are connected to the temperature control unit 22, thus it would be inherent that both heaters could be programmed to use the same temperature control application. The applicant does not mention the location of the heater in relation to the print head.

Applicant argues that there is no teaching or suggestion of monitoring the temperature of the ink block heater 50; however, in column 3, lines 37-56, Brooks discloses the heating element being in communication with the temperature control. It is heating element 66 that better illustrates the monitoring of heat; in column 3, line 65-column 4, line 8, Brooks discloses the power supply to the heater being interrupted in the event of an overheat condition.

In response to applicant's argument that Brooks is silent of the situation where the ink block was unable to be heated to supply the reservoir, indicating an ink stick jam, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Applicant describes an ink stick jam as "when the sensed temperature of the heater plate varies from the predetermined desired temperature by a selected amount indicating a possible ink stick jam" [0007]. Brooks discloses overheating; however, it does not disclose a reason for overheating. As stated in the present application, overheating is indicative of a jam, thus the reason for the overheating in the Brooks patent indicates that it could be the result an ink jam.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

  
MANISH S. SHAH  
PRIMARY EXAMINER  
8/21/06